Documenting Geographic Information

Minnesota Geographic Metadata Guidelines

Version 1.2 - October 7, 1998

A State Version of the FGDC Content Standards for Geospatial Metadata

Developed by the Minnesota Governor's Council on Geographic Information GIS Standards Committee

THE GOVERNOR'S COUNCIL ON GEOGRAPHIC INFORMATION was created in

1991 by Governor Arne H. Carlson to provide leadership in the development, management and use of geographic information in Minnesota. With assistance from Minnesota Planning, the council makes recommendations for policies, institutional arrangements, education, stewardship, standards and more.

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The Minnesota Geographic Metadata Guidelines A recommended approach to documenting spatially referenced data.

Proper documentation is often overlooked when developing new databases to be used for geographic information system processing. When essential information about data is missing, its value is severely reduced. Where did the data come from? When were they collected? How accurate are they and how are they to be appropriately used? Without clear and complete documentation, no easy resolution to these fundamental questions exists. Confusion created by such uncertainty leads to a lack of confidence in the data that blemishes the outcome of any analysis in which it is used.

Bridges are built among users of geographic data when a common approach to documentation is used. Agreement on how we describe our data cultivates a common vocabulary and improved understanding. An investment in thorough data documentation can pay for itself through increased data longevity, a greater ability to share data, decreased user support requirements, and in extreme cases, the avoidance of litigation related to data misuse or copyright violations.

The *Minnesota Geographic Metadata Guidelines* provide that common approach for documenting all types of geographic data. They have been designed to be straightforward, intuitive and complete. This document describes those guidelines which are based on a standard developed by the Federal Geographic Data Committee in 1993; *The Content Standards for Geospatial Metadata*. In developing the *Minnesota Geographic Metadata Guidelines*, the Minnesota Governor's Council GIS Standards Committee sought to create a streamlined implementation of the federal standard that retains the essence of its original content.

The Seven Sections of the Minnesota Geographic Metadata Guidelines

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1 Identification Information	2 Data Quality Information	3 Spatial Data Organization Information	4 Spatial Reference Information	5 Entity and Attribute Information	6 Distribution Information	7 Metadata Reference Information
Originator	Attribute Accuracy	Native Data Set Environment	Horizontal Coordinate Scheme	Entity and Attribute Overview	Publisher	Metadata Date
Title	Logical Consistency	Geographic Reference for Tabular Data	Ellipsoid	Entity and Attribute Detailed Citation	Publication Date	Metadata Contact Person
Minnesota Clearinghouse ID	Completeness	Spatial Object Type	Horizontal Datum		Distributor Contact Person	Metadata Contact Organization
Abstract	Horizontal Positional Accuracy	Vendor Specific Object Types	Horizontal Units		Distributor Organization	Metadata Contact Position
Purpose	Vertical Positional Accuracy	Tiling Scheme	Distance Resolution		Distributor Position	Metadata Contact Address
Time Period of Content Date	Lineage		Altitude Datum		Distributor Address	Metadata Contact City
Currentness Reference	Source Scale Denominator		Altitude Units		Distributor City	Metadata Contact State or Province
Progress			Depth Datum		Distributor State or Province	Metadata Contact Postal Code
Maintenance and Update Frequency			Depth Units		Distributor Postal Code	Metadata Contact Voice Phone
Spatial Extent of Data			If Raster		Distributor Voice Phone	Metadata Contact Fax Phone
West Bounding Coordinate			Cell Width		Distributor Fax Phone	Metadata Contact E-mail Address
East Bounding Coordinate			Cell Height		Distributor E-mail Address	Metadata Standard Name
North Bounding Coordinate			If Geographic		Distributor's Data Set Identifier	Metadata Standard Version
South Bounding Coordinate			Latitude Resolution		Distribution Liability	Metadata Standard Online Linkage
Place Keywords			Longitude Resolution		Transfer Format Name	
Theme Keywords			If UTM		Transfer Format Version Number	

Theme Keyword
Thesaurus
Access Constraints
Use Constraints
Contact Person
Contact Organization
Contact Person
Position
Contact Address
Contact City
Contact State or
Province
Contact Postal Code
Contact Voice Phone
Contact Fax Phone
Contact E-mail
Address
Browse Graphic File
Name
Browse Graphic File
Description
Associated Data Sets

UTM Zone Numb	er
Coordinate Offset	s or
Adjustments	
If State Plane	
SPCS Zone Identi	fier
Coordinate Offset	s or
Adjustments	
If County	
Coordinates	
County Coordinat	e
Zone Identifier	
Coordinate Offset	s or
Adjustments	
If User Specified	
Projection	
Map Projection N	ame
Map Projection	
Parameters	
If Other	
Other Coordinate	
System's Definition	on

Transfer Size

Ordering Instructions

Online Linkage

FGDC Identifier	FGDC Element Name	Minnesota State Element Name	Field Type	Domain	Description
Section 1	Identification Information				
1.1-8.1	Originator	Originator	text	free text	The name of the organization or individual that developed the data set.
1.1-8.4	Title	Title	text	free text	The name by which the data set is known.
No FGDC		Minnesota	text	free text	NOTE: Not implemented at this time. A unique identifying
Equivalent		Clearinghouse ID			code for the data set for use in the Minnesota clearinghouse.
1.2.1	Abstract	Abstract	text	free text	A summary of what is in the data set.
1.2.2	Purpose	Purpose	text	free text	Why the data set was developed.
1.3 - 9.1.1	Time Period of	Time Period of	date	free date	A single date for which the data set corresponds to the
	Content -	Content Date			ground or for which the user can be confident of accuracy
	Calendar Date				and completeness. (If multiple dates or a range of dates
					apply to the data set, use "Currentness Reference" to list them and to explain further.)
1.3.1	Currentness	Currentness	text	free text	The basis on which the Time Period of Content Date is
	Reference	Reference			determined. List what the date is referring to (e.g. ground
					condition, date of quad map that was digitized, etc.) If
					multiple dates or a range of dates apply, list and explain.
1.4.1	Progress	Progress	text	"complete" "in work" "planned"	Development status as reflected in domain choices.
1.4.2	Maintenance and	Maintenance and	text	"continually" "daily"	The frequency with which changes and additions are made to
	Update Frequency	Update		"weekly" "monthly"	the data set after the initial data set is completed.
		Frequency		"annually" "unknown"	
				"as needed" "irregular"	
				"none planned" free text	
Part of 1.2.3	Supplemental Information	Spatial Extent of Data	text	free text	Describe the geographic area covered by the data set.
1.5.1.1	West Bounding	West Bounding	real	-180.0 <= West Bounding	Western-most coordinate of the limit of coverage expressed
	Coordinate	Coordinate		Coordinate < 180.0	in longitude, in decimal degree units.
1.5.1.2	East Bounding	East Bounding	real	-180.0 <= East Bounding	Eastern-most coordinate of the limit of coverage expressed in
	Coordinate	Coordinate		Coordinate <= 180.0	longitude, in decimal degree units.
1.5.1.3	North Bounding	North Bounding	real	-90.0 <= North Bounding	Northern-most coordinate of the limit of coverage expressed
	Coordinate	Coordinate		Coordinate < 90.0	in latitude, in decimal degree units.
1.5.1.4	South Bounding	South Bounding	real	$-90.0 \le$ South Bounding	Southern-most coordinate of the limit of coverage expressed
1.6.0	Coordinate	Coordinate		Coordinate < 90.0	in latitude, in decimal degree units.
1.6.2	Place Keywords	Place Keywords	text	free text	Words or phrases summarizing an aspect of the place of the
1 < 1					data set.
1.6.1	Theme Keywords	Theme Keywords	text	free text	Words or phrases summarizing an aspect of the theme of the
1 < 1 1	TT1		4		data set.
1.6.1.1	Theme Keyword	Theme Keyword	text	free text	Reference to a formally registered thesaurus or a similar
	Thesaurus	Thesaurus			authoritative source of theme keywords.

FGDC Identifier	FGDC Element Name	Minnesota State Element Name	Field Type	Domain	Description
1.7	Access Constraints	Access Constraints	text	"none" free text	Restrictions and legal prerequisites for accessing the data set. These include any access constraints applied to assure the protection of privacy or intellectual property, and any special restrictions or limitations on obtaining the data set.
1.8	Use Constraints	Use Constraints	text	"none" free text	Restrictions and legal prerequisites for using the data set after access is granted (ex. transferring to others).
1.9-10.1.1	Point of Contact - Person	Contact Person	text	free text	A person within the development or managing group who can receive inquiries regarding the content or development of the data set. This may not be the same as the distributor.
1.9-10.1.2	Point of Contact - Organization	Contact Organization	text	free text	The name of the organization that can receive inquiries regarding the content or development of the data set.
1.9-10.3	Point of Contact - Position	Contact Person Position	text	free text	The position of the Contact Person
1.9-10.4.2	Point of Contact - Address	Contact Address	text	free text	The mailing address of the Contact Person.
1.9-10.4.3	Point of Contact - City	Contact City	text	free text	The city of the Contact Person.
1.9-10.4.4	Point of Contact - State or Province	Contact State or Province	text	free text	The state or province of the Contact Person.
1.9-10.4.5	Point of Contact - Postal Code	Contact Postal Code	text	free text	The ZIP or other postal code of the Contact Person.
1.9-10.5	Point of Contact - Voice Phone	Contact Voice Phone	text	free text	The voice telephone number, including area code, of the Contact Person.
1.9-10.7	Point of Contact - Facsimile Phone	Contact Fax Phone	text	free text	The facsimile telephone number, including area code, of the Contact Person.
1.9-10.8	Point of Contact - E-mail Address	Contact E-mail Address	text	free text	The Internet mail address of the Contact Person.
1.10.1	Browse Graphic File Name	Browse Graphic File Name	text	"none available" free text	A "Browse Graphic" is any type of graphic file that provides an illustration of the data set. If a browse graphic is available on the Internet, provide the file name Uniform Resource Locator (URL), including the "http://".
1.10.2	Browse Graphic File Description	Browse Graphic File Description	text	free text	A text description of the illustration.
1.14 - 8.4	Cross Reference - Title	Associated Data Sets	text	free text	Information about other, related data sets that are likely to be of interest (e.g. derived from common sources, similar theme, etc.)

FGDC Identifier	FGDC Element Name	Minnesota State Element Name	Field Type	Domain	Description
Section 2	Data Quality Information				
2.1.1	Attribute Accuracy Report	Attribute Accuracy	text	free text	An explanation of how accurately the entities have been identified or how accurately values have been assigned in the data set. This can be the results of quantitative analysis, steps taken to ensure accuracy during development, or known deficiencies.
2.2	Logical Consistency Report	Logical Consistency	text	free text	An indication of topological problems such as overshoots, undershoots, unwanted intersections, unclosed polygons, missing or duplicate labels, etc.
2.3	Completeness Report	Completeness	text	free text	Information about omissions, selection criteria, generalization, definitions used, and other rules used to derive the data set that may affect the completeness of content of the data.
2.4.1.1	Horizontal Positional Accuracy Report	Horizontal Positional Accuracy	text	free text	An explanation of the accuracy of the horizontal positions (coordinates) of spatial objects and a description of the tests or line of reasoning used to arrive at the estimate.
2.4.2.1	Vertical Positional Accuracy Report	Vertical Positional Accuracy	text	free text	An explanation of the accuracy of the vertical positions (coordinates) of spatial objects and a description of the tests or line of reasoning used to arrive at the estimate.
2.5 (FGDC compound)	Lineage	Lineage	text	free text	Information about the sources of data used to construct the data set and steps used to process the data. For each processing step provide, where possible, the following: source data name, source data scale, source data date, description of processing steps performed, scanning or digitizing specifications, hardware & software used, processing tolerances, etc.
2.5.1.2	Source Scale Denominator	Source Scale Denominator	integer		The denominator of the representative fraction of source map(s). Please leave out commas (e.g. 24000 not 24,000). Example: on a 1:24000 scale map, the Source Scale Denominator is 24000; on a "100 scale" map (1 inch = 100 feet) the Source Scale Denominator is 1200. If no source maps were used, enter zero (e.g. GPS data). If multiple source map scales were used, enter the Source Scale Denominator of the smallest scale map (largest denominator).

FGDC Identifier	FGDC Element Name	Minnesota State Element Name	Field Type	Domain	Description
Section 3	Spatial Data Organization Information				
1.13	Native Data Set Environment	Native Data Set Environment	text	free text	A description of the data set in the producer's processing environment including the software name and version number. The user may also enter the computer operating system, file name and data set size if desired. (Note: Transfer formats will be listed in Section 6.)
3.1	Indirect Spatial Reference	Geographic Reference for Tabular Data	text	free text	Description of the types of geographic features, addressing schemes, geocodes or other means through which locations are referenced in the data set.
3.2	Direct Spatial Reference Method	Spatial Object Type	text	"point" "vector" "raster"	The system of objects used to represent space in the data set.
Replacement of FGDC 3.3)	Point and Vector Object Information	Vendor Specific Object Types	text	"arc" "area" "cell" "column" "network" "node" "label" "line" "point" "polygon" "region" "route-section" "row" "TIN" free text	The spatial objects used in terms used by the software. Counts of these objects may also be entered (e.g. columns = 100, rows = 200, lines = 300, points = 400, etc.) Additional values may be used if the domain choices are not complete for a data set.
No FGDC Equivalent		Tiling Scheme	text		Description of the physical partitioning of the data set (e.g. counties, USGS 7.5 minute quad sheets, etc.).

FGDC Identifier	FGDC Element Name	Minnesota State Element Name	Field Type	Domain	Description
Section 4	Spatial Reference Information				
Modification of 4.1.2.2.1	Grid Coordinate System Name	Horizontal Coordinate Scheme	text	"geographic (Lat. Long.)" "UTM" "State Plane" "County Coordinates" "User Specified Projection" "Other"	The scheme used to define horizontal coordinates as depicted by the domain choices.
4.1.4.2	Ellipsoid	Ellipsoid	text	"Clarke 1866" "GRS80" free text	Identification given to establish representation of the Earth's shape.
4.1.4.1	Horizontal Datum	Horizontal Datum	text	"NAD27" "NAD83" "NAD83 (96)"	The datum used in the horizontal coordinate system. "NAD83 (96)" represents the 1996 adjustment based on the High Accuracy Reference Network (HARN).
4.1.2.4.4 (partially)	Planar Distance Units	Horizontal Units	text	"meters" "feet" "decimal degrees" free text	The horizontal distance units. User may specify additional units not listed in domain. NOTE: "feet" is assumed to be U.S. survey feet.
4.1.2.4.3.1	Distance Resolution	Distance Resolution	text	free text	The minimum distance measurable between two points, expressed in distance units of measure (e.g. the minimum allowable distance between two vertices).
4.2.1.1	Altitude Datum	Altitude Datum	text	"NGVD29" "NAVD88" "not applicable" free text	The level surface of reference from which altitudes are measured, if applicable. NGVD29 = National Geodetic Vertical Datum of 1929; NAVD88 = North American Vertical Datum of 1988.
4.2.1.3	Altitude Units	Altitude Units	text	"meters" "feet" free text	Units in which altitudes are measured.
4.2.2.1	Depth Datum	Depth Datum	text	"local surface" "mean low water" "mean high water" "mean sea level" "land survey datum" "not applicable" free text	The surface of reference from which depths are measured, if applicable.
4.2.2.3	Depth Units	Depth Units	text	"meters" "feet" free text	Units in which depths are measured.
		Raster Data Only			
4.1.2.4.2.1	Abscissa Resolution	Cell Width	real	> 0.0	The column width of a raster cell expressed in distance units of measure.
4.1.2.4.2.2	Ordinate Resolution	Cell Height	real	> 0.0	The row height of a raster cell expressed in distance units of

measure.

Resolution

FGDC Identifier	FGDC Element Name	Minnesota State Element Name	Field Type	Domain	Description
		If Geographic			
4.1.1.1	Latitude	Latitude	real	> 0.0	The minimum difference between two adjacent latitude values
	Resolution	Resolution			expressed in Geographic Coordinates Units of measure.
4.1.1.2	Longitude	Longitude	real	> 0.0	The minimum difference between two adjacent longitude values
	Resolution	Resolution			expressed in Geographic Coordinates Units of measure.

		If UTM			
4.1.2.2.2.1	UTM Zone	UTM Zone	text	14, 15, 15E, 16, free text	Identifier for the UTM zone number(s) used. "15E"
	Number	Number			represents zone 15 extended to cover the entire state of
					Minnesota.
No FGDC		Coordinate	text	free text	An explanation of the magnitude, direction, etc. of any
Equivalent		Offsets or			coordinate shifts or adjustments. For example "subtracted
		Adjustments			4,700,000 from the Y coordinate".

		If State Plane			
4.1.2.2.4.1	SPCS Zone	SPCS Zone	integer	2201, 2202, 2203	The Federal Information Processing Standard (FIPS) four-
	Identifier	Identifier			digit numeric code for the State Plane Coordinate Systems.
					In Minnesota, North = 2201, Central = 2202, and South =
					2203.
No FGDC		Coordinate	text	free text	An explanation of the magnitude, direction, etc. of any
Equivalent		Offsets or			coordinate shifts or adjustments.
		Adjustments			

	If County Coordinate	s		
No FGDC Equivalent	County Coordinate Identifier	Zone integer	1 - 67	The county coordinate zone identifier number from The Minnesota County Coordinate System, A User's Handbook by Ken Whitehorn, Itasca Co. Surveyor, published by Precision Measuring Systems, 1998.Note: Some coordinate zones include multiple counties and some large counties have multiple coordinate zones.Note: these coordinate IDs are not the same as county IDs. Note: A list of the codes is available in the DataLogr help menus.
No FGDC Equivalent	Coordinate Offsets or Adjustment		free text	An explanation of the magnitude, direction, etc. of any coordinate shifts or adjustments.

FGDC Identifier	FGDC Element Name	Minnesota State Element Name	Field Type	Domain	Description
		If User Specified Projection			
4.1.2.1.1	Map Projection	Map Projection	text	free text	Name of the map projection.
	Name	Name			
4.1.2.1.2	Map Projection	Map Projection	text	free text	List the actual projection parameters reflected in the
(FGDC	Parameters	Parameters			coordinate system used. (See FGDC standards for specific
compound)					information.)

		If Other			
4.1.2.1.3	Other Projection's	Other	text	free text	Explain the reference frame or system from which linear or
	Definition	Coordinate			angular quantities are measured and assigned to the position
		System's			that a point occupies.
		Definition			

FGDC Identifier	FGDC Element Name	Minnesota State Element Name	Field Type	Domain	Description
Section 5	Entity and Attribute Information				
5.2.1	Entity and Attribute Overview	Entity and Attribute Overview	text	free text	A summary of the information contained within the data set.
5.2.2	Entity and Attribute Detailed Citation	Entity and Attribute Detailed Citation	text	free text	A reference to one or more detailed sources of information on the content of the data set; for example, a digital or hardcopy data dictionary. (See FGDC Standard for data dictionary format information.) The user may attach or link to a detailed data dictionary.

FGDC Identifier	FGDC Element Name	Minnesota State Element Name	Field Type	Domain	Description
Section 6	Distribution Information				
1.1-8.8.2	Publisher	Publisher	text	free text	The name of the organization or individual that made the data set publicly available. This will often be the same as the "Originator" (1.1-8.1).
1.1-8.2	Publication Date	Publication Date	date	"unknown" "unpublished material" "periodically revised" date	The date when the data set is published or otherwise made publicly available.
6.1-10.1.1	Distributor - Person	Distributor Contact Person	text	free text	A person who can receive inquiries regarding the distribution of the data set.
6.1-10.1.2	Distributor - Organization	Distributor Organization	text	free text	The name of the organization that can receive inquiries regarding the distribution of the data set.
6.1-10.3	Distributor - Position	Distributor Position	text	free text	The position of the Distributor Contact Person
6.1-10.4.2	Distributor - Address	Distributor Address	text	free text	The mailing address of the Distributor.
6.1-10.4.3	Distributor - City	Distributor City	text	free text	The city of the Distributor.
6.1-10.4.4	Distributor - State or Province	Distributor State or Province	text	free text	The state or province of the Distributor.
6.1-10.4.5	Distributor - Postal Code	Distributor Postal Code	text	free text	The ZIP or other postal code of the Distributor.
6.1-10.5	Distributor - Voice Phone	Distributor Voice Phone	text	free text	The voice phone number, including area code, of the Distributor.
6.1-10.7	Distributor - Facsimile Phone	Distributor Fax Phone	text	free text	The facsimile telephone number, including area code, of the Distributor.
6.1-10.8	Distributor - E-mail Address	Distributor E-mail Address	text	free text	The Internet mail address of the Distributor.
6.2	Resource Description	Distributor's Data Set Identifier	text	free text	The identifier by which the distributor knows the data set.
6.3	Distribution Liability	Distribution Liability	text	free text	Statement of the liability assumed by the distributor.

6.4.2.1.1	Format Name	Transfer Format	text	"Arc/INFO" "Arc Export"	The name of the format(s) in which the distributor will make
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FGDC Identifier	FGDC Element Name	Minnesota State Element Name	Field Type	Domain	Description
		Name		"Arc Generate" "Arc Grid" "Arc TIN" "ASCII" "Atlas GIS" "DLG" "DXF" "EPPL7" "GRASS" "IDRISI" "IGDS" "INFO" "Intergraph" "MapInfo" "MOSS" "SDTS" "SPANS" "TIGER" "Ultimap" image- <specific format=""> free text</specific>	the data available. The user may list as many formats as desired and may use additional formats not listed in the domain.
6.4.2.1.2	Format Version Number	Transfer Format Version Number	text	free text	Vendor version number of the data format(s) within which the data may be transferred.
6.4.2.1.7	Transfer Size	Transfer Size	text	free text	An estimate of the size of a transfer file(s) in megabytes.
6.4.4	Ordering Instructions	Ordering Instructions	text	free text	Instructions for obtaining the data set. Include instructions for obtaining custom orders. If applicable, also include instructions for acquiring data through the "Online Linkage" element below.
1.1-8.10	Online Linkage	Online Linkage	text	free text	The name of an Internet site or other online resource that contains the data set. Entries should follow the Uniform Resource Locator (URL) convention of the Internet. Include "http://" or "ftp://", etc. in URLs.

FGDC Identifier	FGDC Element Name	Minnesota State Element Name	Field Type	Domain	Description
Section 7	Metadata Reference Information				
7.1	Metadata Date	Metadata Date	date	free date	The date that the metadata were created or last updated.
7.4-10.1.1	Metadata Contact - Person	Metadata Contact Person	text	"same as Contact Person" free text	The name of the person responsible for the metadata information
7.4-10.1.2	Metadata Contact - Organization	Metadata Contact Organization	text	free text	The name of the organization responsible for the metadata information.
7.4-10.3	Metadata Contact - Position	Metadata Contact Position	text	free text	The position of the Metadata Contact Person
7.4-10.4.2	Metadata Contact - Address	Metadata Contact Address	text	free text	The mailing address of the Metadata Contact.
7.4-10.4.3	Metadata Contact - City	Metadata Contact City	text	free text	The city of the Metadata Contact.
7.4-10.4.4	Metadata Contact - State or Province	Metadata Contact State or Province	text	free text	The state or province of the Metadata Contact.
7.4-10.4.5	Metadata Contact - Postal Code	Metadata Contact Postal Code	text	free text	The ZIP or other postal code of the Metadata Contact.
7.4-10.5	Metadata Contact - Voice Phone	Metadata Contact Voice Phone	text	free text	The voice phone number, including area code, of the Metadata Contact.
7.4-10.7	Metadata Contact - Facsimile Phone	Metadata Contact Fax Phone	text	free text	The facsimile telephone number, including area code, of the Metadata Contact.
7.4-10.8	Metadata Contact - E-mail Address	Metadata Contact E-mail Address	text	free text	The Internet mail address of the Metadata Contact.
7.5	Metadata Standard Name	Metadata Standard Name	text	"Minnesota Geographic Metadata Guidelines"	The name of the metadata standard or guidelines used to document the data set.
7.6	Metadata Standard Version	Metadata Standard Version	text	"1.2" free text	Identification of the version of the metadata standard or guidelines used to document the data set.
Modification of 7.11.1	Online Linkage	Metadata Standard Online Linkage	text	"http://www.mngeo.state.mn.u s/committee/standards/mgmg/ metadata.htm" ¹ free text	The name of an Internet site or other online resource that contains a description of the metadata standard or guidelines. Entries should follow the Uniform Resource Locator (URL) convention of the Internet. Include "http://" in URLs.

¹ url updated May 2014